

REMARKS

Claims 1-28 are pending in the present application. Claims 1, 8, 17 and 24 have been amended.

Priority Under 35 U.S.C. 119

Applicant notes the Examiner's acknowledgment of the Claim for Priority under 35 U.S.C. 119, and receipt of the certified copy of the priority document.

Claim Rejections-35 U.S.C. 103(a)

Claims 1-7, 9-12 and 17-23 have been rejected under 35 U.S.C. 103(a) as being unpatentable over the Moslehi et al. reference (U.S. Patent No. 6,073,576) in view of Applicant's admitted prior art. This rejection, insofar as it may pertain to the presently pending claims, is traversed for the following reasons.

The semiconductor manufacturing apparatus of claim 1 includes in combination a wafer support; a stage; and wafer clamps "that push a perimeter of said wafer from above said wafer to adjust a position of said wafer and to fix said wafer on said stage". Applicant respectfully submits that the prior art as relied upon by the Examiner does not disclose or make obvious these features.

In an embodiment of the semiconductor manufacturing apparatus of the present application, wafer clamps are arranged in a position to contact a perimeter of the wafer as mounted on the stage. Particularly, a wafer support of the stage has a tapered

lateral side that contacts an edge of the wafer from below the wafer, when the wafer is placed on the wafer support.

It should be readily understood that when a wafer is set on the stage such as electrode 12 in Fig. 1 of the present application, the wafer may not necessarily be correctly set on the stage initially. In other words, the wafer may initially be positioned off to a side of the stage. In such a case, the wafer would be placed on the wafer support in an inclined state such as shown in enclosed Explanatory Fig. A. After initial setting of the wafer on the wafer support as shown in Explanatory Fig. A, the wafer clamps approach the wafer support from above, and push the wafer at peripheral positions thereof downward. The wafer is therefore adjusted to be in the correct position. That is, the wafer clamps of an embodiment of the application adjust the position of the wafer on the stage, and then also fix the wafer in the adjusted position, so that the wafer is properly set on the stage as shown in enclosed Explanatory Fig. B. Thus, by combination of the tapered lateral side of the wafer support and the wafer clamps pushing downward, the position of the wafer is adjusted and the wafer is fixed on the stage.

The Examiner has primarily relied upon the Moslehi et al. reference as disclosing the features of claim 1. The Examiner has however acknowledged that the Moslehi et al. reference fails to teach wafer clamps. In order to overcome this acknowledged deficiency, the Examiner has alleged that it would have been obvious to modify the apparatus of the Moslehi et al. reference to include wafer clamps 16 as illustrated in

Applicant's prior art Figs. 6-8.

Applicant respectfully submits that even if motivation existed for modifying the apparatus of the Moslehi et al. reference in view of Applicant's prior art, the combined prior art would fail to meet the features of claim 1. As particularly described beginning on page 2, line 7 of the present application with respect to prior art Fig. 6, susceptor 10 and electrode 12 are movable upward and downward. When susceptor 10 and electrode 12 are moved upward in a state in which wafer 14 has been placed on electrode 12, the edges of the top surface of wafer 14 come into contact with the distal ends of wafer clamps 16. Wafer 14 is pressed from above by wafer clamp 16, and as a result **wafer 14 is fixed to electrode 12**. As further described on page 3, lines 3-6 of the present application, susceptor 10 and electrode 12 of prior art Fig. 6 are raised until the upper surface of wafer 14 comes into contact with wafer clamps 16, so that wafer 14 is fixed on electrode 12.

Accordingly, wafer clamps 16 of Applicant's prior art merely fix or hold wafer 14 to electrode 12, regardless of the position or alignment of wafer 14 on electrode 12. Wafer clamps 16 of Applicant's prior art **do not also adjust a position of wafer 14**, in addition to fixing wafer 14 to electrode 12, as would be necessary to meet the features of claim 1. That is, wafer clamps 16 of Applicant's prior art do not cooperate with tapered lateral sides of a wafer support to adjust a position of a wafer, as particularly described above with reference to Explanatory Figs. A and B. The prior art as relied upon by the Examiner as taken together does not disclose cooperation of tapered

lateral sides of a wafer support and wafer clamps to both adjust a position of a wafer and fix the adjusted position of the wafer. Applicant therefore respectfully submits that the semiconductor manufacturing apparatus of claim 1 would not have been obvious in view of the prior art as relied upon by the Examiner taken singularly or together, and that this rejection, insofar as it may pertain to claims 1-7 and 9-12, is improper for at least these reasons.

The wafer-securing method of claim 17 includes in combination disposing a stage having "a wafer support that has a tapered lateral side that supports an edge of said wafer from below said wafer"; and "adjusting a position of said wafer and fixing said wafer on said stage by using wafer clamps that push a perimeter of said wafer from above said wafer". Applicant respectfully submits that as noted above, the prior art as relied upon by the Examiner does not disclose the use of wafer clamps that push a perimeter of a wafer from above to both adjust a position of the wafer and fix the wafer on a stage, as featured in claim 17. Applicant therefore respectfully submits that the wafer-securing method of claim 17 would not have been obvious in view of the prior art as relied upon by the Examiner taken singularly or together, and that this rejection, insofar as it may pertain to claims 17-23, is improper for at least these reasons.

Allowable Subject Matter

Applicant respectfully notes the Examiner's acknowledgment that claims 13-16 and 25-28 are allowed.

Applicant also respectfully notes the Examiner's acknowledgment that claims 8 and 24 are objected to as being dependent upon rejected base claims, but would be allowable if rewritten in independent form. Although Applicant does not necessarily concede that the above noted rejections are proper, claims 8 and 24 have respectively been amended to be in independent form, to advance prosecution of this application. The Examiner is therefore respectfully requested to acknowledge that claims 8 and 24 are allowed.

Conclusion

As noted above, claims 8 and 24 have been respectively amended to be in independent form in view of the Examiner's acknowledgment of allowable subject matter, not to further distinguish over the prior art. Thus, the amendments to claims 8 and 24 should not be construed as narrowing scope within the meaning of *Festo*.

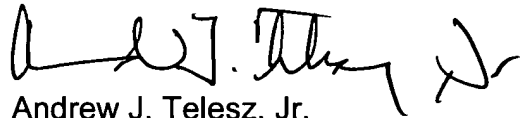
The Examiner is respectfully requested to reconsider and withdraw the corresponding rejections, and to pass the claims of the present application to issue, for at least the above reasons.

In the event that there are any outstanding matters remaining in the present application, please contact Andrew J. Telesz, Jr. (Reg. No. 33,581) at (703) 715-0870 in the Washington, D.C. area, to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment for any additional fees that may be required, or credit any overpayment, to Deposit Account No. 50-0238.

Respectfully submitted,

VOLENTINE FRANCOS, P.L.L.C.

A handwritten signature in black ink, appearing to read "A. J. Telesz, Jr.", with a stylized flourish at the end.

Andrew J. Telesz, Jr.
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Enclosures: Explanatory Figs. A and B